

REMARKS

After entry of the amendments made herein claims 1-20 are pending in the application. Claims 1-13 and 15-19 are withdrawn from further consideration as being drawn to a non-elected invention. Claim 14 is herein amended and new claim 20 is added. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s). The amendment finds support in the specification and is discussed in the relevant section below. No new matter is added.

Applicant thank Examiner Sims for withdraw of the rejection of claim 14 under 35 U.S.C. §102(e).

Rejection of the claims under 35 U.S.C. §103 (a)

Claim 14 is rejected under 35 U.S.C. 103(a) as being obvious in light of Sliwkowski (U.S. Patent No. 6,1949,245). The Office Action states that:

Sliwkowski teaches the limitations of claim 14 at col. 10, lines 15-21, col. 64, lines 58-67, col. 65-66 and col. 69. Sliwkowski at co. 10, defines an intact antibody as a molecule that is comprised of both heavy chain and light chain components. Sliwkowski at col. 64 further discusses antibodies used for therapy in colorectal cancer and references an antibody that comprises seq id no 6, which is a sequence with 93.6% homology to the claimed heavy chain in claim 14 of the instant patent application.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention that a variable heavy chain, which exhibits at least 93.6% homology to a sequence would also exhibit 94% homology to the same sequence as the difference in homologies is a mere 0.04%, which is a difference that is an obvious variation. When there is motivation to solve a problem and there are a **finite number of identified predictable solutions**, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In this instance the fact that a combination was obvious to try shows that it was obvious under §103. **It would have been obvious to try for one of ordinary skill in the art because it s common practice to try to achieve greater homology with respect to this type of invention.** [Emphasis added]

Applicant respectfully disagrees. However, in the interest of expediting prosecution, Applicant has herein amended claim 14 to require an intracellular binding immunoglobulin molecule with a variable heavy chain which exhibits at least 95% homology to the consensus sequence SEQ ID No 3. New claim 20 requires a binding immunoglobulin molecule with a variable heavy chain having the amino acid sequence SEQ ID No 3. Support for the amendment and new claim 20 can be found throughout the application as filed, including page 17, lines 17-19 and page 34, lines 10-12. The sequence disclosed by Sliwkowski differs from the currently claimed invention by at least 1.4% and as much as 16.4% at the amino acid level. Such a difference would not have been obvious to one of ordinary skill in the art.

The KSR Court recognized that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” KSR Int’l Co. v. Teleflex, Inc., 127 S.Ct. 1727 (2007) at 1732. In such circumstances, “the fact that a combination was obvious to try might show that it was obvious under § 103.” Id. That is not the case here.

Sliwkowski fails to teach or suggest an intracellular binding immunoglobulin having a variable heavy chain which exhibits at least 95% homology to SEQ ID No 3 and a variable light chain. Furthermore, contrary to the Examiner’s assertions mutating the Sliwkowski sequence to arrive at the claimed invention is not obvious to try. The Examiner argues that “there are a finite number of identified predictable solutions”. However, in the present case, a large number of modifications could have been made to the Sliwkowski sequence, the *vast majority* of which would lead one further away from the currently claimed amino acid sequence. For example, SEQ ID NO:3 has 112 amino acid residues each of which can be any one of 20 amino acid residues. If one were to modify only two amino acid residues of Sliwkowski the likelihood of choosing two amino acid residue which are identical to those of SEQ ID NO:3 is 1 in 400, if one modifies three residues the likelihood of choosing amino acid residues which are identical to those of SEQ ID NO: 3 decreases to 1 in 8000.

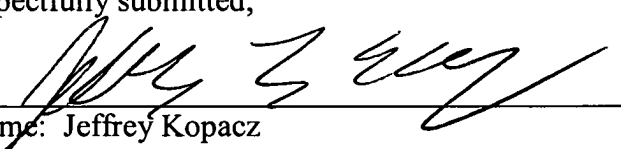
This is not what the KSR Court had envisioned when it referred to a “finite number” of identified predictable solutions. Thus, this case fails to present the type of situation contemplated by the Court when it stated that an invention may be deemed obvious if it was “obvious to try.” The evidence shows that it was not obvious to try

The Office Action also states that, “it is common practice to try to achieve greater homology with respect to this type of invention.” However, this rationale is not applicable to the present situation. It is only the present application that teaches an intracellularly binding immunoglobulin having a variable heavy chain with the amino acid sequence of SEQ ID NO:3. Thus, it could not have been obvious to a skilled person at the time of filing “to achieve greater homology” to the present sequence, because the sequence was not known prior to the present invention. There is no motivation or suggestion to modify the prior art sequence so as to be more similar to SEQ ID NO:3 to say so is to engage in hindsight bias. In light of the above, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. §103(a).

Applicant submits that all claims are allowable as written and respectfully request early favorable action by the Examiner. If the Examiner believes that a telephone conversation with Applicant's attorney/agent would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned attorney/agent of record.

Respectfully submitted,

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Name: Jeffrey Kopacz
Registration No.: 54,744
Customer No.: 21874
Edwards Angell Palmer & Dodge LLP
P.O. Box 55874
Boston, MA 02205
Tel. (617) 239-0100